WE CLAIM:

1.   A method of attaching a private name space of a home network to a private name space of another home network, said method comprising the steps of:

receiving one or more names and one or more IP addresses of a remote home network via a virtual private network (VPN) tunnel coupling said remote home network and a local home network;

updating the configuration of a DNS server of said local home network to delegate said one or more names of said remote network to a remote gateway of said remote home network; and

transmitting one or more names and one or more IP addresses of said local home network via said VPN tunnel to said remote home network.

2.   The method according to claim 1, further comprising the step of setting up said VPN tunnel between said remote home network and said local home network.

3.   The method according to claim 1, further comprising the step of resolving any name conflicts in said local home network regarding said one or more names of said remote home network.

4.   The method according to claim 1, further comprising the step of recording said one or more names and said one or more IP addresses of said remote home network.

5.   The method according to claim 1, further comprising the step of sending a confirmation message to said remote gateway of said remote home network regarding the updating of the configuration of said DNS Server.

6.   The method according to claim 1, further comprising the step of receiving either a confirmation message or a conflict message from said remote home network regarding said one or more names of said local home network transmitted to said remote home network.

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7.   The method according to claim 6, further comprising the step of transmitting to said remote home network an alias for any one of said one or more names of said local home network for which a conflict message is received.

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8.   The method according to claim 7, further comprising the step of updating information about any alias.

9.   A method of resolving a name request in a private name space

15   of a home network with which a private name space of another home network is attached, said method comprising the steps of:

receiving a DNS request in said home network;

determining if said DNS query is received from a virtual private network (VPN) tunnel coupling said home network with said other

20   home network; and

if said DNS query is determined to have been received from said VPN tunnel, forwarding a reply to a requesting host of said other home network in response to said DNS query.

25   10.   The method according to claim 9, further comprising the step of determining if the queried name in said DNS request is a domain name of said home network.

11.   The method according to claim 10, further comprising the step

30   of resolving said name globally if the queried name in said DNS request is not a domain name of said home network.

12.   The method according to claim 10, further comprising the steps of transmitting said DNS query to one or more local name servers and receiving a reply from at least one of said local name servers.

5   13.   The method according to claim 12, further comprising the steps of:

determining if said queried name matches with alias information; and

if a match is determined to exist, removing references to the real
10   name mapping to an aliased name from a DNS reply.

14.   A gateway attaching a private name space of a home network to a private name space of another home network, comprising:

at least one communications interface for transmitting and
15   receiving data;

a storage unit for storing data and instructions to be carried out by a processing unit;

a processing unit coupled to said at least one communications interface and said storage unit, said processing unit is programmed to:

20   receive one or more names and one or more IP addresses of a remote home network via a virtual private network (VPN) tunnel coupling said remote home network and a local home network,

update the configuration of a DNS server of said local
25   home network to delegate said one or more names of said remote network to a remote gateway of said remote home network, and

transmit one or more names and one or more IP addresses of said local home network via said VPN tunnel to
30   said remote home network.

15. The gateway according to claim 14, wherein said processing unit is programmed to set up said VPN tunnel between said remote home network and said local home network and to resolve any name conflicts in said local home network regarding said one or more names of said remote home network.

16. The gateway according to claim 14, wherein said processing unit is programmed to receive either a confirmation message or a conflict message from said remote home network regarding said one or more names of said local home network transmitted to said remote home network.

17. The gateway according to claim 16, wherein said processing unit is programmed to transmit to said remote home network an alias for any one of said one or more names of said local home network for which a conflict message is received.

18. The gateway according to claim 14, wherein said processing unit is programmed to receive a DNS request in said home network, to determine if said DNS query is received from a virtual private network (VPN) tunnel coupling said home network with said other home network, and if said DNS query is determined to have been received from said VPN tunnel, to forward a reply to a requesting host of said other home network in response to said DNS query.

19. The gateway according to claim 18, wherein said processing unit is programmed to determine if the queried name in said DNS request is a domain name of said home network.

20. The gateway according to claim 19, wherein said processing unit is programmed to transmit said DNS query to one or more local name servers and to receive a reply from at least one of said local name servers, to determine if said queried name matches with alias information, and if a match

is determined to exist, to remove references to the real name mapping to an aliased name from a DNS reply.

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